SECTION 01516

ASBESTOS ABATEMENT

PART I GENERAL

1.1 SCOPE

This Section specifies the requirements for an asbestos hygiene program, and methods to be used for removal, movement, and disposition of friable asbestos-containing material (ACM) and other materials contaminated with asbestos. This Section does not cover transite unless panels exhibit significantly deteriorated surfaces where surfaces become friable.

1.2 RELATED SECTIONS

A. Section 01120 - Debris/Waste Handling Criteria
B. Section 01517 - Removing/Fixing Radiological Contamination
C. Section 07415 - Transite Removal
D. Section 15067 - Ventilation and Containment

1.3 REFERENCE MATERIALS

A. See the Invitation for Bid/Request for Proposal (IFB/RFP) Package for the following:

1. Index of Drawings
2. Photographs
3. Drawings
4. Air Filter Device (AFD) Procurement Specification
5. Air Cleaning Filter Procurement Specification
6. Contractor Safe Work Plan Format Requirements
7. HEPA Vacuum Cleaner Requirement
8. HEPA Air Filtration Device Requirement

B. ACM summary information on the project is provided in Part 6 of the IFB/RFP; however, the contractor is responsible for estimating quantities for bid/proposal and regulatory purposes.

1.4 REFERENCES, CODE AND STANDARDS

A. 29 CFR 1910 Occupational Safety and Health Administration - Dept. of Labor (as applicable)
B. 29 CFR 1926 Occupational Safety and Health Administration - Dept. of Labor (as applicable)
C. Ohio Department of Health Asbestos Hazards Abatement Rules Chapter 3701 - 34, OAC (Ohio Department of Health)
D. Ohio Environmental Protection Agency Chapter 3745-20, OAC
E. United States Environmental Protection Agency (U.S. EPA) 40 CFR 61, Subpart M, (NESHAPS)

1.5 SUBMITTALS

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The Contractor shall submit to Fluor Fernald the following for approval:

A. An Asbestos Abatement Safe Work Plan, prepared by an Ohio Certified Asbestos Abatement Project Designer, in accordance with the IFB/RFP Part 7, Contractor Safe Work Plan Format Requirements, and Part 8, Asbestos Abatement Safe Work Plan Requirements and Safety and Health and Training Requirements, including the procedures proposed for use in complying with the requirements of this Section.

B. Prior to initiation of ACM work, the Contractor shall submit the following items to Fluor Fernald:

1. Ohio Department of Health/OSHA-required documentation for Asbestos Removal Contractors:

a. Documentation of training
b. Medical surveillances
c. Respirator fit-test
d. Employee exposure assessments

2. State of Ohio certificates and licenses for the Contractor.

3. State of Ohio certification for all personnel as required by law.

C. Five (5) days prior to submittal of notification to government agencies, the Contractor shall provide a copy of the notification to Fluor Fernald for concurrence.

D. Product Data: The Contractor shall submit manufacturer's technical information including application instructions for each material proposed for use.

1.6 DELIVERY, STORAGE, AND HANDLING

Materials shall be in original, new, and unopened containers bearing manufacturer=s name, label, and the following information:

A. Name or title of material
B. Manufacturer=s stock number and date of manufacture
C. Manufacturer=s name
D. Thinning instructions
E. Application instructions

1.7 SITE CONDITIONS

A. Interior transite that has deteriorated to a friable condition shall be considered friable ACM and therefore be removed in accordance with this Section.

B. ACM-containing materials such as floor tile, mastic, woven cloth-covered electric wire, and gaskets may become friable during handling; therefore, such materials shall be removed pursuant to the requirements of this Section.

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PART II PRODUCTS

2.1 MATERIAL

A. Polyethylene sheeting: Fire retardant, clear, and have a minimum of 6 mils thickness as manufactured by Blueridge Films, Inc. or equal.

B. Polyethylene bags: clear and have a minimum of 6 mils thickness.

C. Outside containments: Clear, reinforced and have a minimum of 6 mils thickness as manufactured by Blueridge Films, Inc. or equal.

D. Surfactants (wetting agents), encapsulants, and lockdowns shall be mixed in a proportion specified by the manufacturer and contain a colorant to make coverage areas readily apparent. Products that have been acceptable to Fluor Fernald include those listed below. Equivalent or better products may be acceptable and shall be approved by Fluor Fernald.

1. Surfactants:

    a. CP-225 CHIL-SORB by Childers
    b. Approved equal

2. Encapsulants:

    a. CP-240 CHIL-LOCK - Childers
    b. Certane 2050 - Certified Technologies
    c. Eppco #1 - Expert Environmental Products
    d. Serpiloc - International Protection Coatings Corp.
    e. Approved equal

3. Lockdowns:

    a. 1050 - Clearcoat by Certane
    b. Fiber-Seal - Eppert
    c. Serpiloc. - International Protection Coatings Corp.
    d. Approved equal

2.2 EQUIPMENT

A. Negative pressure Air Filtration Device (AFD) equipped with HEPA filtration and operated in accordance with the requirements of 29 CFR 1926.1101 (See Part 7 of the IFB/RFP).

B. All containments used for asbestos abatement operations shall be capable of maintaining a minimum of 0.02 inches water gauge (w.g.) of negative pressure, as recorded by manometric measurements. The ventilation system for this type of operation shall provide a minimum of four air changes per hour.

C. For mini-enclosures and glovebags, a HEPA filtered vacuum system may be substituted to provide negative air pressure. Ensure that the HEPA filtered vacuum system meets the four air changes per hour capacity required for mini-containments.

D. HEPA filtered vacuum. See Part 7 of the IFB/RFP for requirements of HEPA vacuum systems.

E. The Contractor shall supply a Portable Asbestos Hygiene Facility (see Figure 1). The size of this facility shall be large enough to handle the asbestos workers during peak manpower periods. The facility shall meet the requirements for a hygiene facility specified by OSHA 29 CFR 1926.1101, DOE and site radiological control requirements. It shall be constructed using fire retardant material. When exiting a radiological contaminated area, whole body monitoring is required prior to showering.

The requirements for hygiene facility compliance with radiological controls are as follows:

1. The asbestos hygiene facility shall be located adjacent to the radiological contamination area. The size of this facility is based on the number of employees that will be using the facility; this determines the number of showers required. The minimum number of showers required (based on number of workers) is located in 29 CFR 1910.141, Sanitation. It is recommended that the Contractor provide more showers than are legally required so the workers can exit the work area in a timely manner.

2. The doffing room shall be divided into two areas, the Equipment Area and the Buffer Area, and shall be maintained under negative pressure relative to the rest of the asbestos hygiene facility.

3. The Equipment Area will be considered a radiological contaminated area. The air in the dirty change area shall be exhausted through a HEPA filtered air filtration device to assist in cleaning the air in the change area. The air change requirement in the dirty change area is 4 air changes per hour at a minimum of -0.02 inches of water pressure differential, relative to outside pressure. The dirty change area shall be large enough to accommodate four containers for segregation of asbestos contaminated waste and personal protective equipment, and an Air Filtering Device. The dirty change area shall have hooks or shelves for storage of hardhats and toolbelts.

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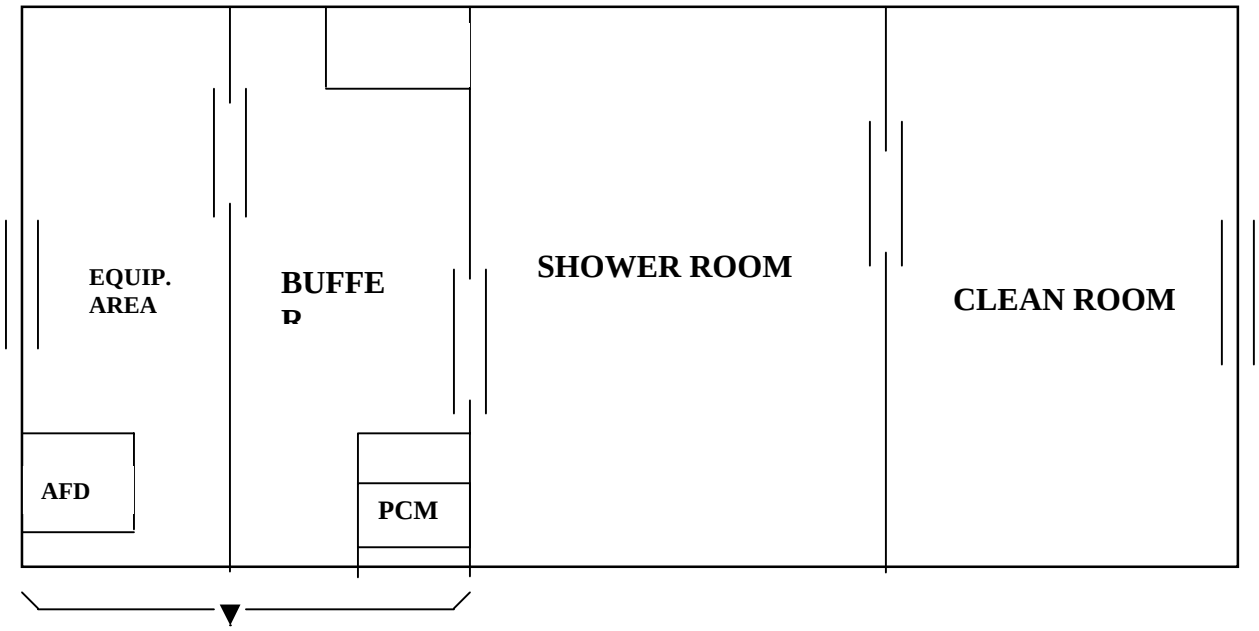
FIGURE 1 ASBESTOS HYGIENE FACILITY (EXAMPLE)



4. A step-off pad will be established in the airlock/doorway separating the radiological contaminated area from the radiological controlled area creating a boundary for control of asbestos contaminated items and radiological contamination. The second area in the doffing room (Buffer Area) will be a radiologically controlled area which should be maintained free of any asbestos or radiological contamination. The Contractor shall ensure that an electrical outlet exists for the PCM. The minimum power requirements for the PCM are 120 volts AC and 1 amp. The PCM minimally requires an area of 5.5 feet by 4 feet by 8 feet in height. The buffer area shall also contain a sink for the rinsing of respirators prior to doffing.

5. Water shall be collected from the shower room and the buffer area sink, and be filtered down to 5 microns for asbestos fibers prior to discharge to the site wastewater treatment facility.

6. The clean room shall contain benches, lockers for storage of workers= personal clothing, and shelves for storage of personal protective equipment.

PART III EXECUTION

3.1 PREPARATION

A. Regulatory:

The Contractor shall:

1. Notify the Ohio Department of Health (ODOH) ten (10) days prior to start of ACM removal; coordinate with Fluor Fernald prior to submitting ODOH notification (Note: Fluor Fernald will be responsible for notifying the EPAs and all other applicable governmental agencies before start of work).

2. Comply with work practices and procedures set forth in all applicable Federal, State, and local codes, regulations, and standards.

3. Obtain certifications and licenses.

4. Take precautions to prevent creation of friable ACM during handling.

B. Work Area (for containment work):

1. Isolate the work area.
2. Establish hygiene facility/equipment room.
3. Install primary containment barriers.
4. Cover the floor with two layers of 6 mil polyethylene sheeting.
5. Size plastic to minimize seams.
6. Cover walls and any contained work area with 6 mil polyethylene sheeting.
7. Provide load out facility and emergency exits.
8. Post the required asbestos hazard warning signs.

C. Work Area (for glove-bag/wrap and cut removal):

1. Isolate work area.
2. Establish hygiene facility/equipment room.
3. Install work area barriers.
4. Cover the floor with one layer of 6 mil polyethylene sheeting.
5. Post the required asbestos hazard warning signs.

3.2 APPLICATION

A. Wet methods and engineering controls/containment shall be utilized throughout abatement activities to prevent employee exposure as well as the release of visible asbestos emissions to the environment.

B. Removal procedures:

1. Wet all ACM to be removed with amended water solution.

2. Saturated ACM shall be removed in manageable sections and maintained wet until placed into disposal containers or sealed in 2 layers of clear 6-mil plastic.

3. Material removed from building structures or components shall not be dropped or thrown to the floor or into disposal containers.

4. Large components removed intact may be wrapped in two layers of clear 6-mil polyethylene sheeting, secured with tape and properly labeled. All piping (less than 12 inches in

diameter) insulated with ACM may be removed with ACM in place. Wrap the piping with two layers of clear 6-mil polyethylene sheeting. Remove ACM from area of cut utilizing glovebags as containment. Exposed ACM ends shall be capped and the pipe shall be wrapped in clear 6-mil polyethylene sheeting. Containerize according to the Waste Management Plan, located in Part 6 of the IFB/RFP.

5. Asbestos-containing material with sharp-edged components (e.g., nails, screws, metal lath, tin sheeting) which will tear the polyethylene bags and sheeting shall be placed into Contractor-supplied, properly labeled containers, and subsequently bagged for disposal.

6. After completion of all stripping work, surfaces from which ACM has been removed shall be wet-brushed and sponged or cleaned by some equivalent method to remove all visible ACM residue.

C. Cleanup procedures:

1. Remove and containerize all visible accumulations of ACM and asbestos-contaminated material.

2. Wet clean all surfaces in the work area.

3. For containment work, after cleaning the work area, wait at least 24 hours to allow fibers to settle, and HEPA vacuum and wet clean objects and surfaces in the work area again.

4. Inspect the work area for visible residue.

5. The work area shall be cleaned until visual inspection reveals no evidence of any ACM as determined by Fluor Fernald.

6. Apply lockdown to all surfaces in the work area.

7. For containment work, aggressive clearance testing shall be performed by Fluor Fernald and the acceptable limit shall be <0.01 f/cc by Phase Contrast Microscopy.

8. Upon successful completion of aggressive clearance testing by Fluor Fernald, the Contractor shall remove containment and dispose of it as ACM waste per Part 6 of the IFB/RFP.

9. Wastewater associated with asbestos abatement shall be handled in accordance with Article 3.1.D of Section 01517.

D. Floor tile, mastic, woven cloth-covered electric wire, and gaskets may become friable during removal; therefore, the Contractor shall remove such material in a manner that does not allow it to become friable while also adhering to all applicable government, state, and local asbestos abatement regulations.

END OF SECTION